KROFTMAN®
STORAGE BUILDINGS

Installation Manual

T515 Storage Shelter

v.2 140318

Congratulations on your purchase of our instant shelter. This unit is a combination of excellent manufacturing and design. It is comprised of a rigid frame and a durable cover. For easy assembly, we have marked all the parts with codes. With proper installation, use and maintenance, your unit will provide many years of good and suitable service.

READ ALL THE INSTRUCTIONS BEFORE ASSEMBLY !

1. The proper erection and installation of this building requires a high level of care and safety. We recommend the safety regulations be complied with during the installation. It includes but is not limited to:
   - Safety hats, protective eyewear and protective clothing
   - Safety harnesses for all elevated workers
   - Proper ladder, cage, and safety operation
2. Site selection: Choose a solid level location for your building. Do not install the building where the ground could not keep the building steady. Do not install the building where the ground could not bear the weight of the building. Do not install the building in soft grass ground or wetland.
3. Be cautious with the surroundings. Keep work area clean. Do not set up it near snow drifts, in slippery places, or in wet location. The cover of the building will protect against normal falling leaves and light debris, however, large, fast or sharp falling items etc. may cause a puncture or tear in the cover material. So, keep the building away from such harmful things. Be careful with power and heat sources. Don't keep heat sources near the tarpaulin. Don't expose to open flame.
4. Chose a windless day to install the building. It is very difficult to attach the cover in heavy wind.
5. All snow accumulation on the main cover should be removed as soon as possible. Otherwise, when old snow on the roof becomes hard with new snow falling in, it will increase the burden of the roof badly and will damage the roof.
6. Try to keep the building, especially its base, in a dry condition. This will help the building to have a longer life than keeping it in a wet conditions.
7. The user should be responsible for the parts missing or damage occurred during the installation.
8. Don't make alteration of the frame. Don't hang anything besides included parts to the frame. Damages, consequential damages, or injuries caused by improper installation, alteration, improper use, or damages caused by snow, wind, or any acts of nature are owing to the user. The building is not intended for occupancy for any length of time.

ASSEMBLY PROCEDURE

1. Prepare location and place all unit boxes near location sight. Perform an inventory check before beginning, to be certain all components are available for installation.
2. Assemble every group of arch including base plates and lay them on the ground.
3. Erect the front arch and secure by stake pegs.
4. Erect the 2nd arch and connect the two arches by roof purlins.
5. Finish the rest of arches in the same way
6. Install main cover over frame.
7. Install end covers over end panels.

Read all the detailed instructions and notices in the following assembly instructions!

MAINTENANCE AND CARE

1. If some parts or the cover were accidently damaged during the use, contact the local supplier for advises on the repairing method or replacements, so that to prevent from further damage and keep the building in a good condition.
2. When replacing the parts, make certain the whole frame and the parts connected to the replaced parts be well fixed or supported.
3. Same with when attaching the cover, choose a windless day to replace the cover. Begin with making certain all the bolts of the frame and the tensioning equipments be well fixed. When taking off the cover, make sure the related ropes, etc. be taken off, and the cover will not be blocked during the way. Avoid taking off the cover with heavy big power equipments.
4. For the building with mechanical door. Keep the door closed if it is not used for long time. This helps the mechanical door to have a longer life.
5. To enlongate the life of the cover, put small duct tape or foam rubber (provide it by yourself) on the frame that comes to in contact with cover. The tape and foam rubber acts as a cushion to avoid rubbing damage to the cover over years.
6. Periodically(once in half a year or more often), the building should be completely inspected and maintained internally and externally to make certain the building remains properly installed and secured. Including: check all bolts and hardware connectors to be certain they are in place and tightened, the base plates are still fixed firmly, check and adjust the ropes if in need, clean the cover with suitable washing. Allowing dirt and debris to sit on cover over an extended time will damage cover irreparably.

Thanks again for choosing this quality product. The following is the detailed assembly instructions for you starting the assembly.

Part List of Model#Thij-515		
Part Code	**Description**	Quantity
1	Curved roof tube	7
2	Curved side roof tube	10
2A	Curved side roof tube in front panel	2
2B	Curved side roof tube in back panel	2
4	Sidewall Tubes	10
4A	Sidewall Tubes at right of front panel	1
4B	Sidewall Tubes at left of front panel	1
4C	Sidewall Tubes at back panel	2
5	Horizontal wall and roof purlin	30
6	Base flange of four corners	4
8	Base flange of sidewall tube	10
9	Front panel bean(2pcs. One set)	1set
10R	Door frame and track	1
10L	Door frame and track	1
11R	Door frame and track	1
11L	Door frame and track	1
12	Base flange of door frame	2
13	Upper cross tube of back panel(2 pcs.one set)	1set
14	Lower standing tube in the back panel	2
15	Upper standing tube in the back panel	2
16	Base flanges of standing tubes in the back panel	2
17	Side lower cross tube of back panel	2
17A	Middle lower cross tube of back panel	1
18	Beam beside door frame	2
18A	Beam for the winch of the door	1
19	M10x30 bolt	16
19A	M10x16 bolt for tie down ratchet	28
20	Wind Brace Support	4
20A	Tube clip for wind brace support	8
21	Roof cover	1
22	Lower roof cover tensioning tube	2sets
23	Tie down ratchet for tensioning roof cover	14
24	Nylon bands for tensioning roof cover	14
25	Back cover	1
27	Two-sided cover beside door	2
28	Top flaps for above door	1
29	Tensioning tube(in the bottom) for back cover	3

30	Tensioning tube(in the bottom) for front cover	2
31	M10x75 bolt for door track connection	8
31A	M10x60 bolt for front panel connection	16
32	M10x100 bolt for rear panel standing leg connection	4
33	Door cover	1
34	Door dropping tube	6
34A	Bottom door dropping tube	1
35	Double pulley and frame	1
36	Single pulley and frame	1
37	Winch	1
38	Winch handle	1
39	Steel wire rope	2
40	Fastening rope for front&rear cover and the two ends of roof cover	180M
42	Stake peg	50
45	M10x90 bolt for "tapered" connection	104
45A	M10x110 carriage bolt for horizontal tube	40
45B	M5x10 Self-tapping screws for securing the door cover to the dropping tube	28
46	Plastic cap of tensioning tube of roof cover	14

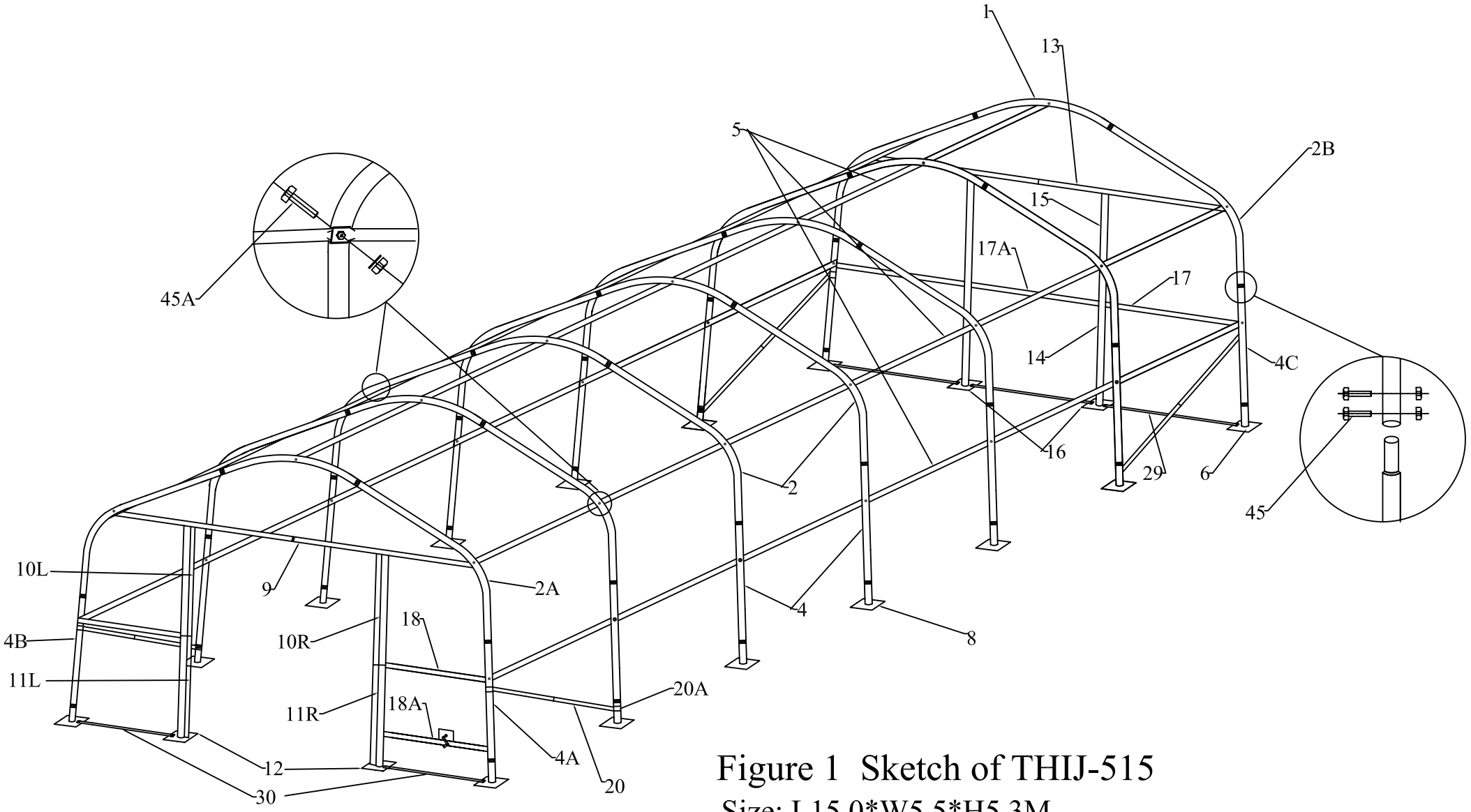


Figure 1 Sketch of THIJ-515

Size: L15.0*W5.5*H5.3M

Step #1 --ARCH ASSEMBLY

Assemble ALL the arches including the base plates, and LAY them **on the ground** first. DO NOT erect them until you finish all the arches assembly.

Each arches consist of:

One Top roof tube (Part # 1), Two Roof curving tube (Part # 2/2A/2B), Two Sidewall tube (Part # 4/4A/4B/4C), Two Base plates (Part #6/8)

Connect the arches by Using the hexagon bolts with washers and nuts(part #45) through predrilled holes in frame members.

NOTE: Please notice that the part code of the arch sections. The sections of middle,front and back arches are not the same. Check with the Part List and the Sketch Figure.

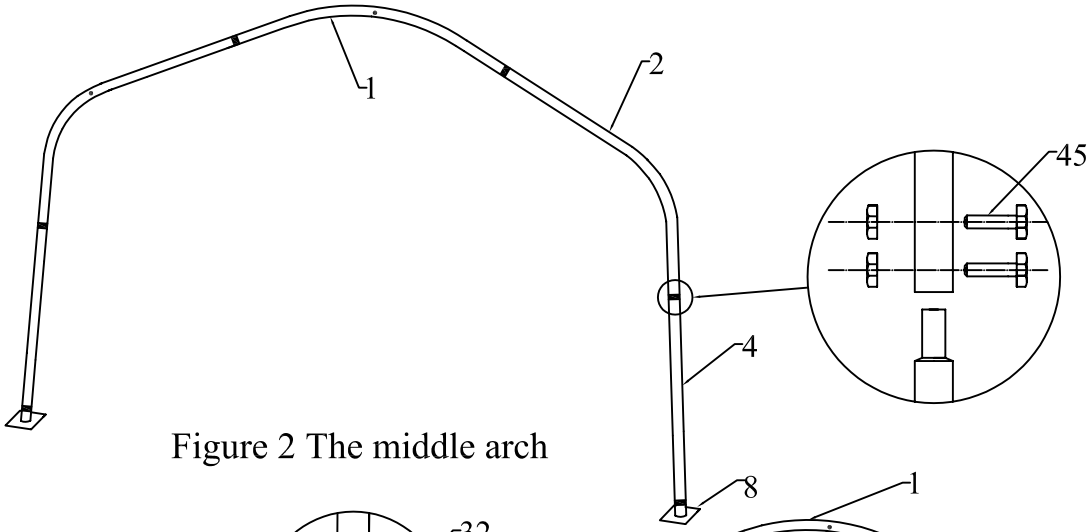


Figure 2 The middle arch

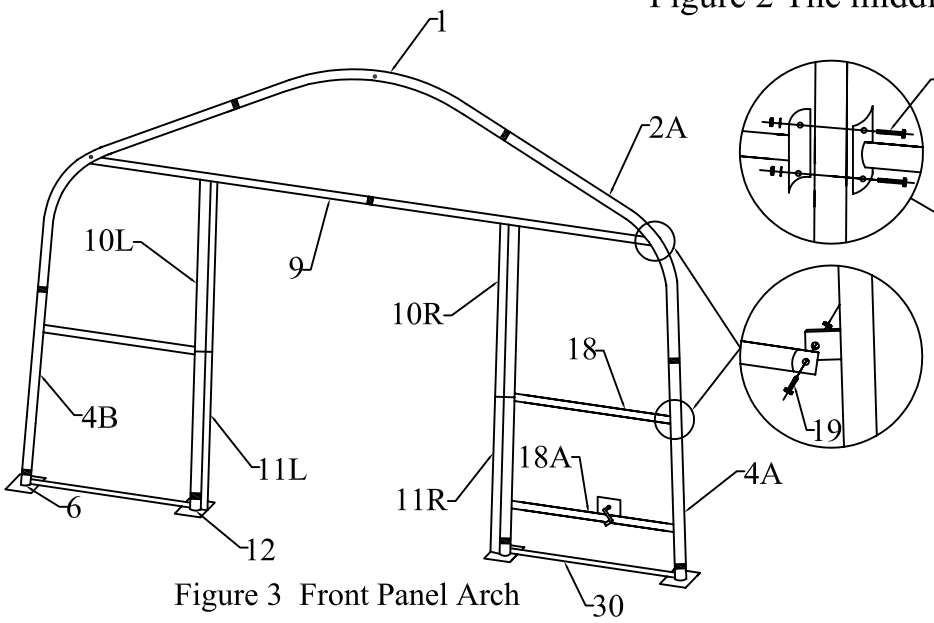


Figure 3 Front Panel Arch

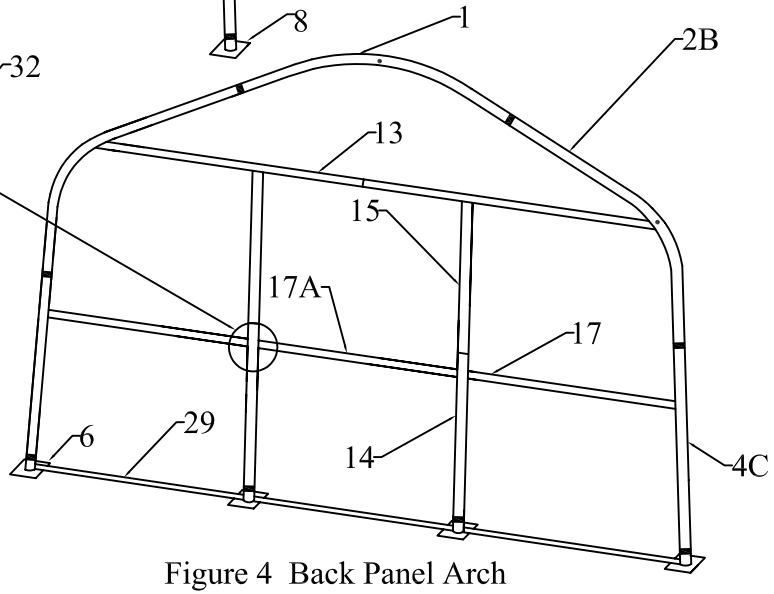


Figure 4 Back Panel Arch

Step #2 --ERECTING ARCHES

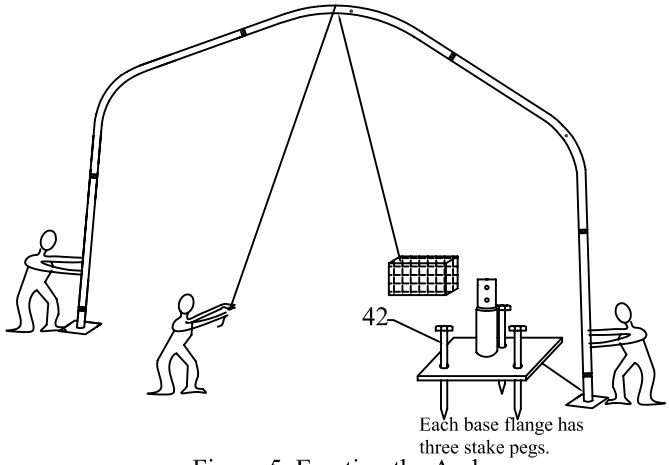


Figure 5 Erecting the Arch

As figure 5 shows, erecting the front arch by using ropes, tie and secure the rope on some heavy object to secure the arch standing temporarily. Then secure the base plates to the ground by using stake pegs(part #42).

Step #3 --Assembling Roof Purlins

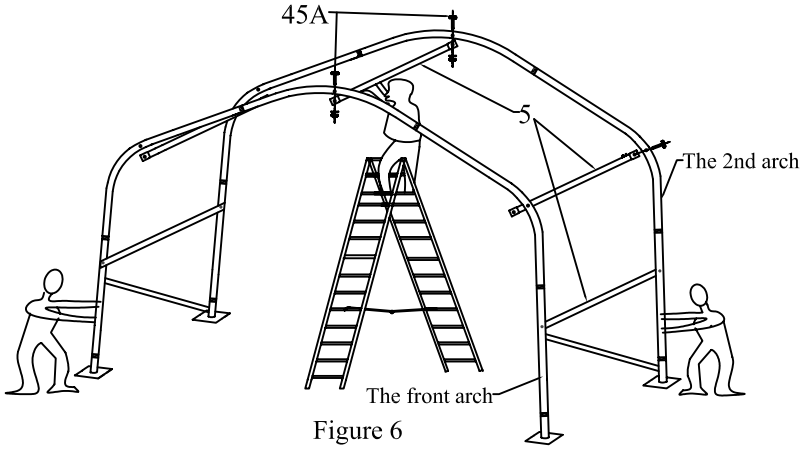


Figure 6

Immediately after erecting the front arch, erect the 2nd arch in the same way. Then connect the two erected arches using Roof Purlin Tubes as figure 6 shows. Secure the Roof Purlin tubes into place using carriage bolts and nuts (part #45A).

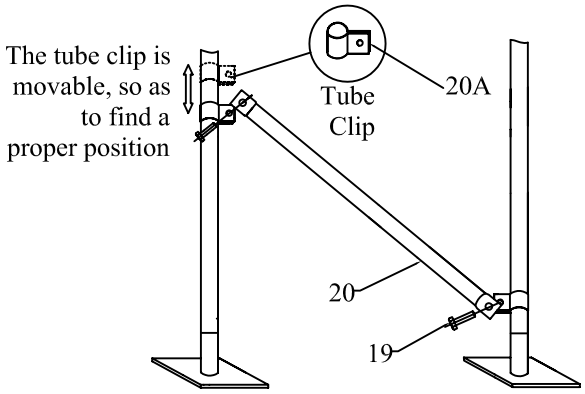


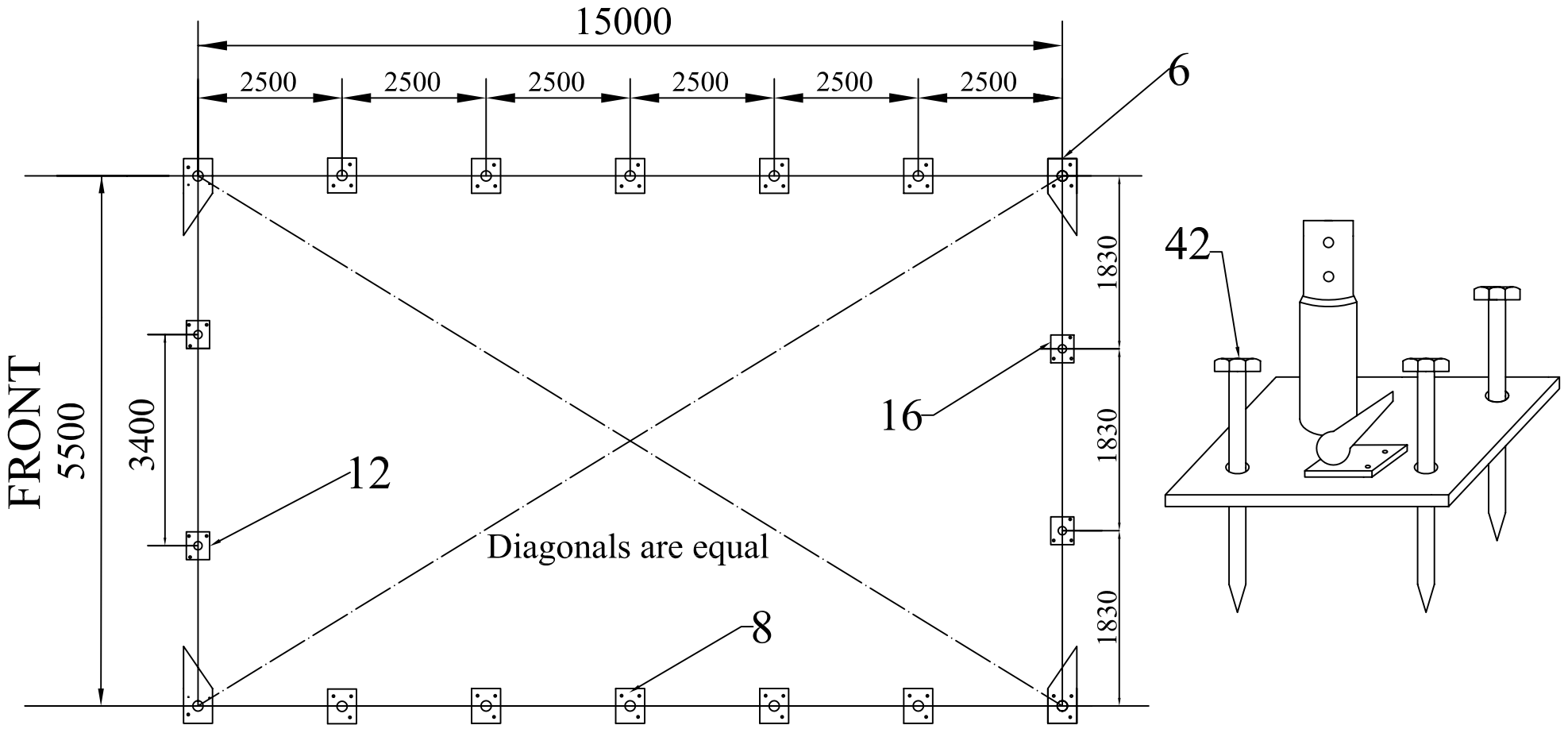
Figure 7: Wind Brace Supports(part 20)

Next install the Wind Brace supports that connect the Front Arch to the first Interior Arch. The Wind Braces give the arch assemblies strength as a unit.Use Bolt M10X30 (Part #19) at the end of each Wind Brace Support to secure.

Continue to install other Arches Assemblies in the same manner. Overlap pinched ends of Roof Purlin onto same carriage bolts inside frame assembly.

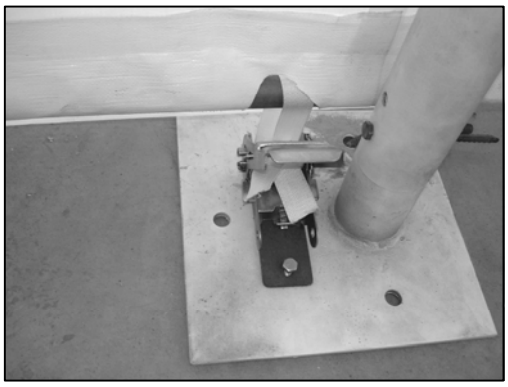
Next check entire frame assembly for square and plumb. Adjust Wind Braces and Roof Purlin as necessary to being frame into plumb. Next tighten frame bolts adequately.

Position of Base Flanges



The Shelter must be secured to a firm surface that can receive and retain pegs firmly in position. The shelter should be installed on FIRM GROUND, not on SWAMP, SOFT/WET GROUND. The Base Flanges must be secured so they cannot be moved.

Step #4 --BOLT RATCHETS TO BASE FLANGES



Attach Tie Down Ratchet to each Base Flange along Sidewall. Use two Bolts M10x15 for each sidewall ratchet to secure to Base Flange.

ROOF COVER INSTALLATION

Step #5 --POSITION ROOF COVER

As figure 8 shows, when ready to install Roof Cover, unpack cover and lay parallel to building frame on one side. Cover must be pulled over top of frame assembly without being snagged or stressed on any frame members. Use multiple ropes over top of frame as shown in picture below. Having another person inside frame on a ladder to assist in getting Roof Cover over frame will insure the cover will go on without any damage.

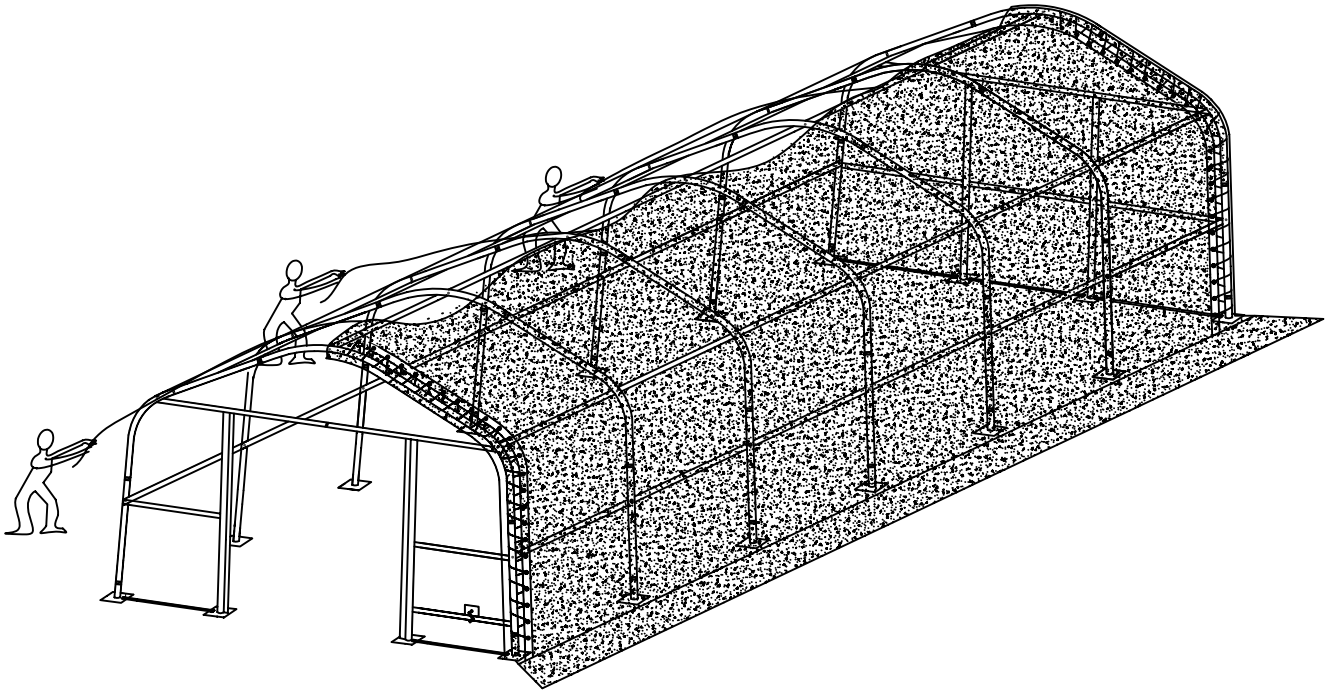


Figure 8: Pull the Roof Cover over the frame evenly

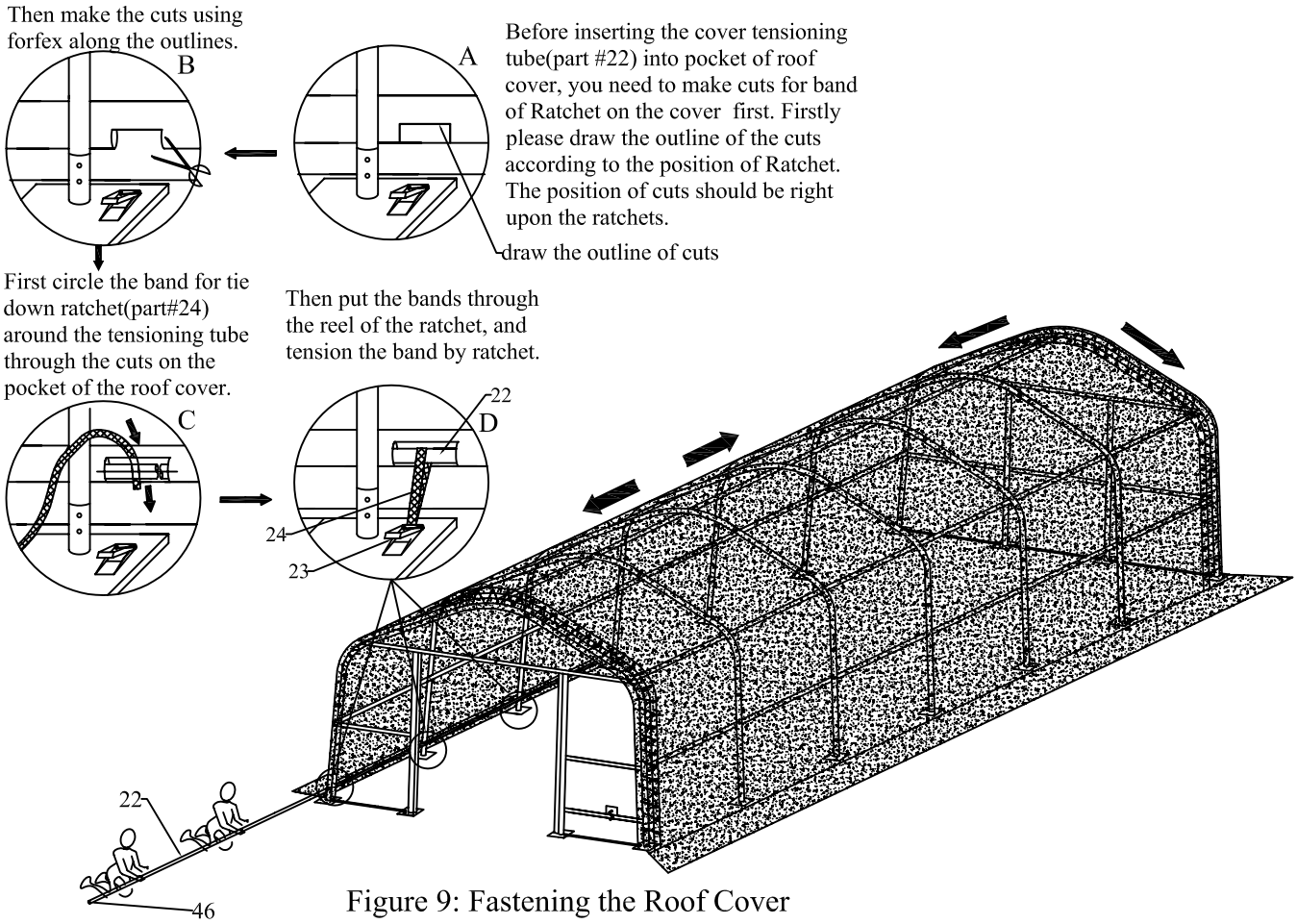

Then make the cuts using forfex along the outlines.
B
A
Before inserting the cover tensioning tube(part #22) into pocket of roof cover, you need to make cuts for band of Ratchet on the cover first. Firstly please draw the outline of the cuts according to the position of Ratchet. The position of cuts should be right upon the ratchets.
draw the outline of cuts
First circle the band for tie down ratchet(part#24) around the tensioning tube through the cuts on the pocket of the roof cover.
Then put the bands through the reel of the ratchet, and tension the band by ratchet.
C
22
D
24
23
22
46

Figure 9: Fastening the Roof Cover

Step #6 --TENSION COVER ON FRAME FROM SIDE-TO-SIDE

As Figure 9 shows, when Roof Cover is over top of Frame Assembly, insert Cover Tensioning Tubes into pockets along both sides of Roof Cover. Center Roof Cover over Frame assembly both side to side and front to back. Align one side of Roof Cover evenly front to back. Add Band for Tie Down Ratchet at each point along the cover opening, as shown. Put Band for Tie Down Ratchets over Cover Tensioning Tubes at each Base Plate along one side. Bands do not attach to Tensioning Tubes, but loop around and secure at both ends on ratchet.

Next take up slack in tie bands by ratcheting the mechanisms, tightening cover. Evenly adjust ratchets on both sides of roof cover to take wrinkles out of roof cover. **DO NOT** fully tighten cover yet. Leave adequate slack so that cover can also be adjusted front to back in next step.

Step #7 --TIGHTEN ROOF COVER ON FRAME FRONT TO BACK

The roof cover is tensioned from front to back by the rope lacing to grommet flaps inside the main cover, inside the unit at both front and rear arches. Using the rope provided, lace the main cover grommet flap around the main frame front and rear arch pieces. Start in the top middle of each arch, and lace to each side. Add rope length by tying pieces together or cutting as necessary.

Lace all grommets on cover inside flap with rope. Starting at the middle top point over the door, tighten lacing only enough to take wrinkles out of the cover. Repeat for the Rear Arch. **DO NOT** over tighten lacing to pull out the grommets.

After the roof cover lacing is adjusted evenly across the grommet flap, go back and re-adjust the Tensioning Ratchets along the side edges of the Roof Cover. At this point, the main cover can be pulled taut enough to take all excess material and wrinkles out of cover. DO NOT over tighten the Ratchets to pull the Bands to the bottom, it may tear the roof cover.

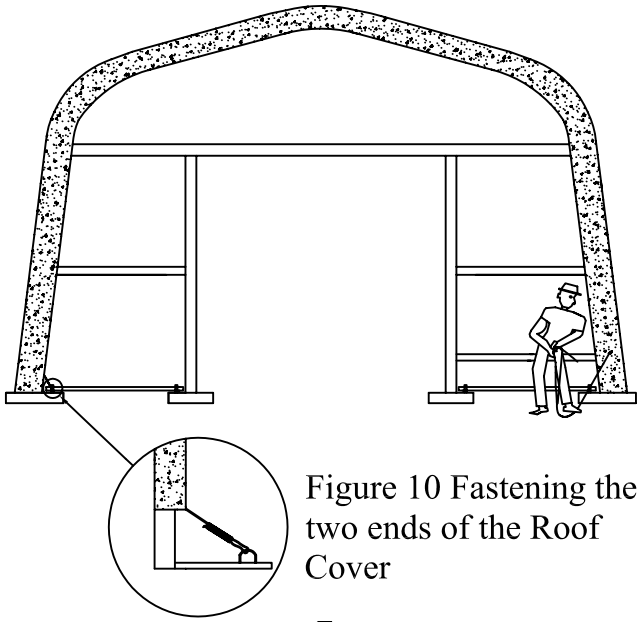


Figure 10 Fastening the two ends of the Roof Cover

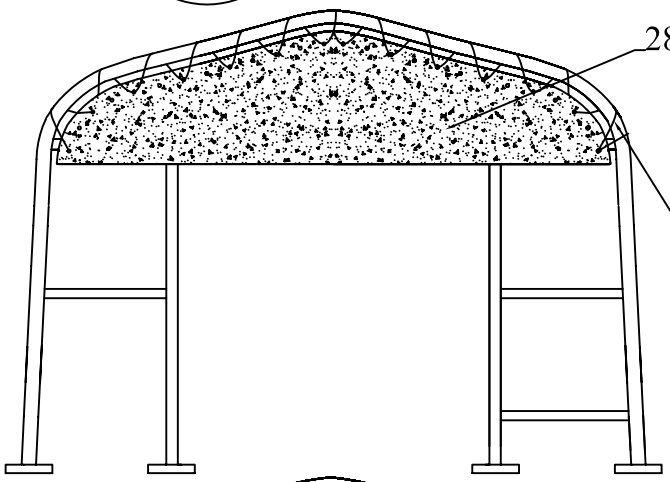


Figure 11 Installation the Top Flaps above the door

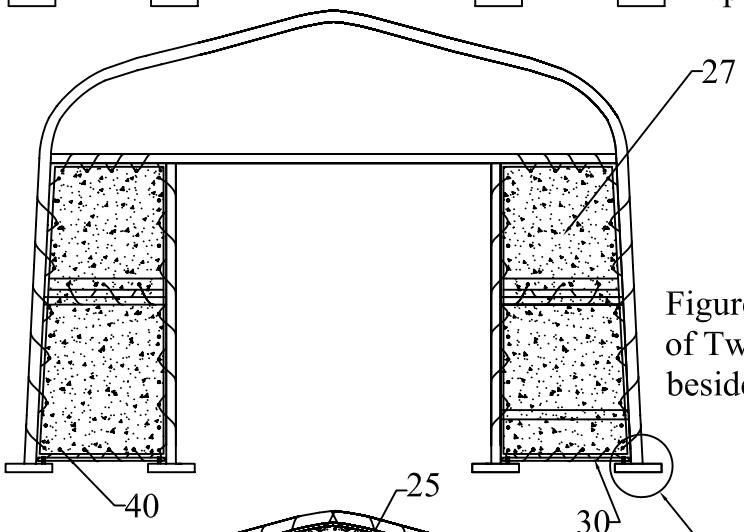


Figure 12 Installation of Two-sided Cover beside door

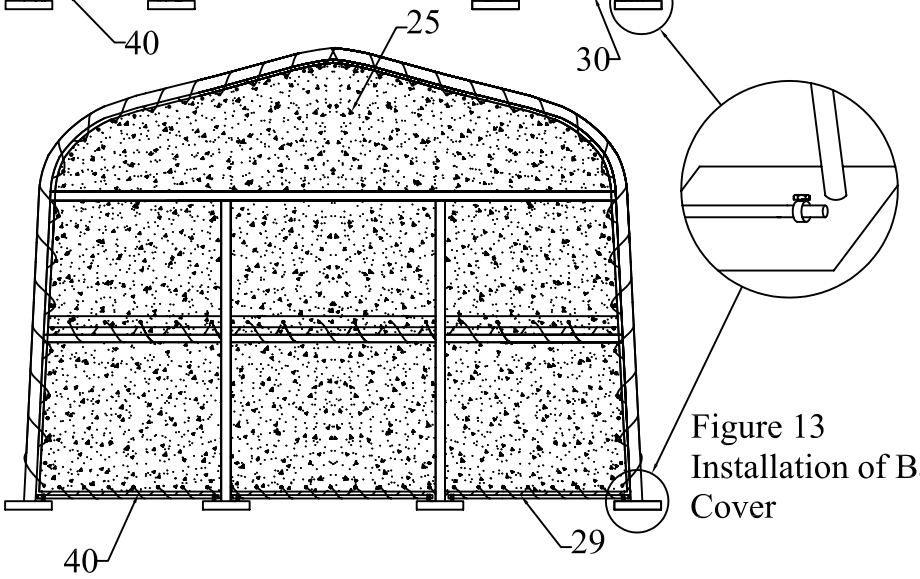


Figure 13 Installation of Back Cover

Step #8 --ASSEMBLE FRONT & REAR COVER

Secure the Front and Back Cover to the arch panel by using the ropes provided.

Main Cover Edge Tie Off

- Once both Front and Rear Covers are installed, the Roof Cover Edge flap, front and rear, should be tightened and tied off. Begin by pulling the remaining Roof Cover over the Frame arch, so the rope pocket is over the edge of the frame. Tie off the rope that goes through the rope pocket on one side. The rope ties off to the loop that is located on the Base Flange in Corner (part #6). Moving to the other side, begin to pull the rope down.

Hold the rope in hand, and push down at the bottom of the rope with a foot. Pull the rope tight, and tie off to the welded hoop on the Base Flange. As you are pulling the edge rope, it will be necessary to adjust the excess material that will collect along the rope packet. Adjust the material so that it is not bunched up and it does not pull the roof cover to one side or the other. Once the Front is completed, repeat the process on the Rear flap of the Roof Cover.

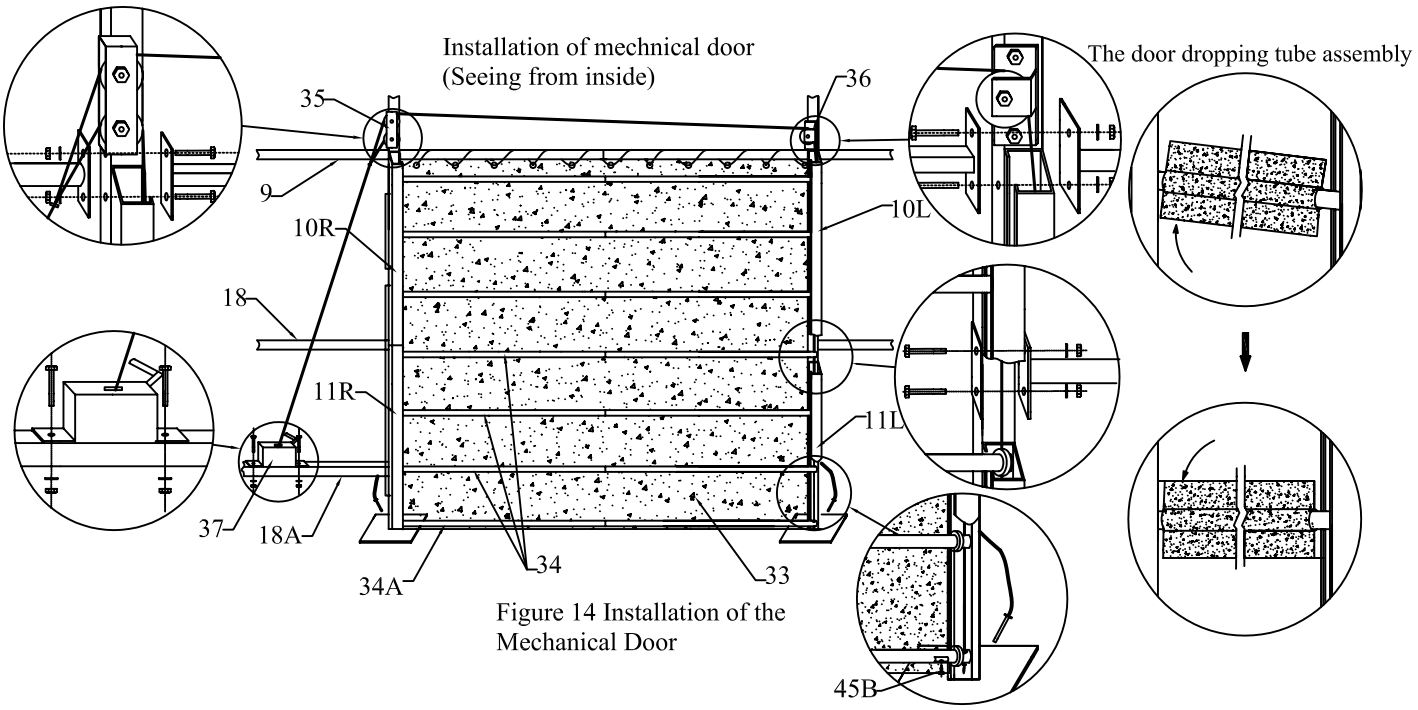


Figure 14 Installation of the Mechanical Door

Step #9 --Mechanical Door Installation Steps

1. Install Main Door Pulleys (left and right) over the Top of the Door on each side of the Door Beam (Part #9).

2. Next mount the Winch Mechanism to the Front Panel Lower Beam (Part #18A).

3. Slide Bottom Door Dropping Tube (Part #34A) into the bottom horizontal fabric pocket on the Door Cover(Part #33). Then slide the six remaining Door Dropping Tubes (Part #34) into the remaining horizontal fabric pockets in the Door Cover,and use the M5x10 Self-tapping screws(part#45B) to secure the door cover to the dropping tube.

4. From the bottom of the door tracks(10L,10R,11L,11R), gently raise and slide one door dropping tube(34) into the tracks. And then feed the other remaining door dropping tubes(34,34A) into the door tracks.

5. Next install the steel wire that leads from the door winching assembly to the bottom of the door dropping tubes. The Winch Assembly has a long and a short steel cable secured to it. Feed the end of the shorter of the two cables through the lower roller of the double pulley at the top of the door assembly track closest to the Winch Assembly, and then down through the holes in the Bottom Door Dropping Tube (34A) on the left hand side of the door (facing from the inside). When the steel cable goes down though the hole in the Bottom Dropping Tube (34A), tie a knot in the steel wire so that it cannot pass back up through the hole.

6. From the Winch Assembly route leading end of the Longer Steel Cable through the Upper Roller of the double pulley on near door track and then through the Single Roller on the door track farthest from the Winch Assembly. Then down through the Bottom Door Dropping Tube (34A). When the steel cable goes down though the hole in the Bottom Door Dropping Tube (34A), tie a knot in the steel cable. Door can now be opened or closed by operating the Winch Assembly. Raise and lower the door several times to be certain door tube ends are not binding on track. Lubricate if necessary.